evopipes
PART OF RADIUS GROUP

EVODRAIN
DRAINAGE SYSTEM

ID:BR.DR.LV-2.1V.17

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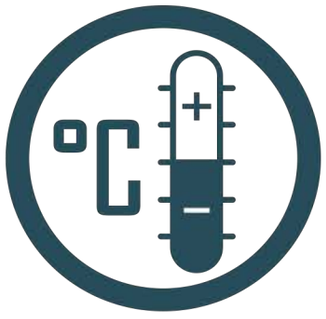
EVOPIPES drainage pipe production features

Mechanical

Good balance between product ring strength, flexibility and impact resistance.



Thermal

The product is resistant to low temperatures in the range from ±0 °C to -10 °C.

Chemical

The product is resistant to aggressive substances present in wastewater and ground in the range from pH2 (acidic environment) to pH12 (alkaline environment).

Ecological

The product is nature friendly, recyclable also after several decades of service.

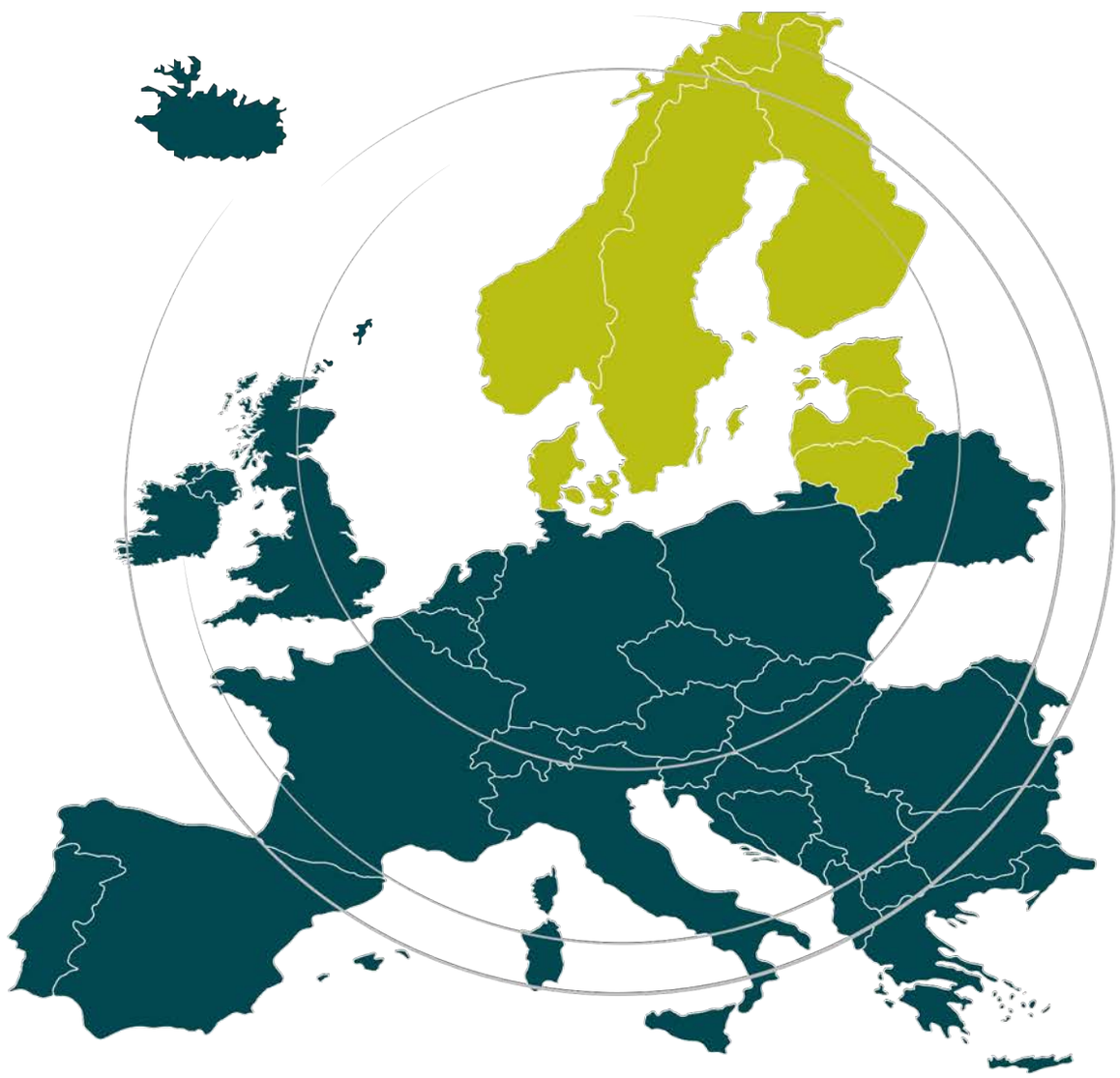
Product lifetime ≥ **50 years.**

FOREWORD

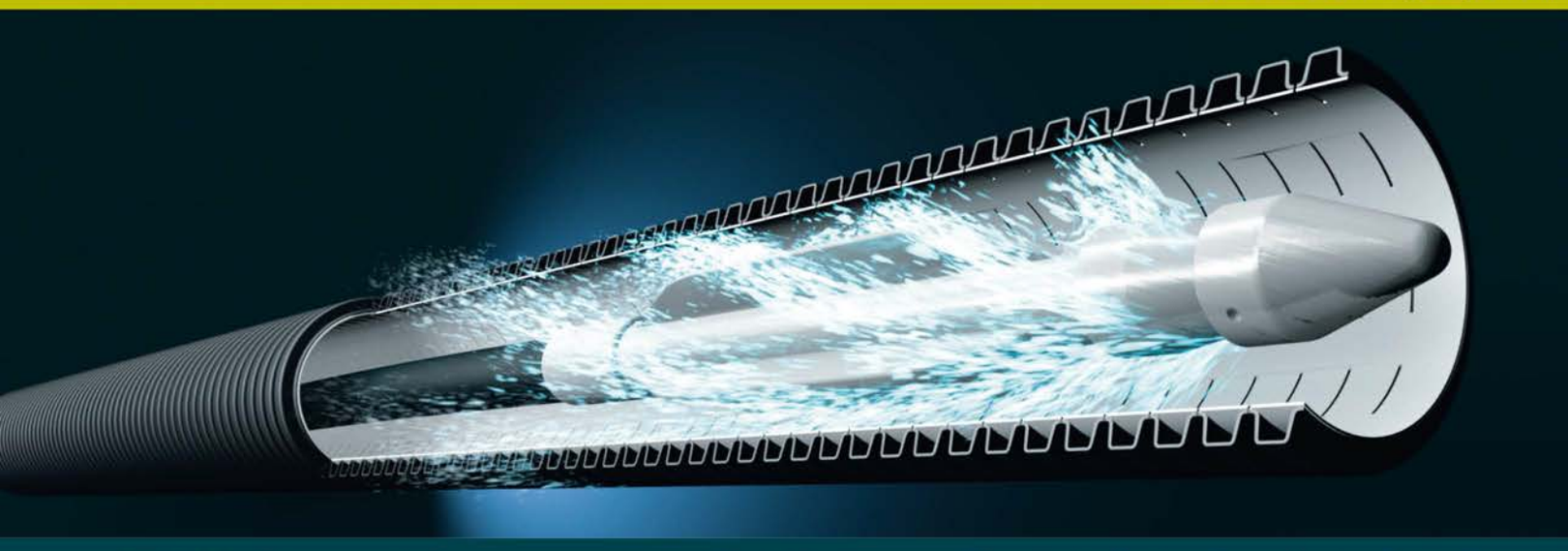
Drainage pipeline network systems are necessary in climatic zones where average precipitation volume is higher than evaporation, thus the drainage plays an important role in water management system. Ground water reclamation and its impact on construction management is a challange for designers and contractors all over the world. Surface water and ground water must be discharged in order to prolong the lifetime and maintain the quality of roads, streets and parking areas, railroads, building foundations, as well as for moisture regulation of agricultural land. **EVOPIPES** provides wide range of products developed in accordance with DIN4262-1 standard, as well as specific requirements of different countries.

EVOPIPES drainage pipeline network systems are well known as the best drainage system solution for construction. EVOPIPES drainage pipeline solutions in coils and bars are easy to install, achieving high productivity and reliable results.

EVOPIPES has developed safe and efficient drainage system which consists of **EVODRAIN FLEX R1/R2** type pipes and **EVODRAIN HARD R2** type pipes with increased mechanical load resistance as well as **RIGID MULTI UV10 R3** type discharge pipes, chambers and all necessary fittings.



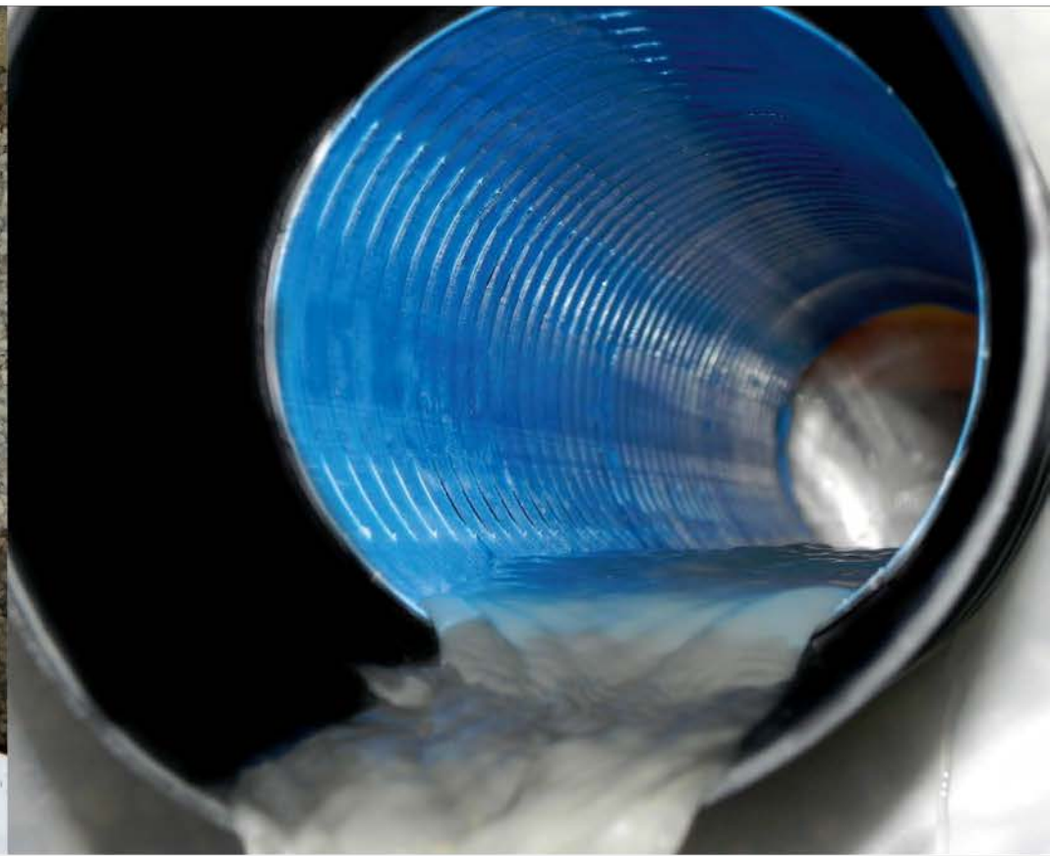
EVOPIPES is high-quality product manufacturer for internal and external engineering network infrastructure, including drainage network systems.



EVOPIPES drainage network systems provide significantly better water flow rate indicators than solutions from other manufacturers available in the market, thanks to substantially larger water reception area (50cm^2/m – 150cm^2/m) and smooth inner layer, which provides better hydraulic parameters and lower maintenance costs as well as longer system lifetime.

EVOPIPES polymer drainage pipeline network system features:

- excellent long-term durability indicators (lifetime ≥ 50 y);
- outstanding corrosion-resistance;
- low water flow resistance due to smooth inner layer;
- water reception intake corrugated area (50 cm^2/m – 150 cm^2/m);
- chemical and biological inertness;
- diversity of fittings;
- system is easy to transport and install;
- environmentally neutral material: polymers are 100% recyclable.



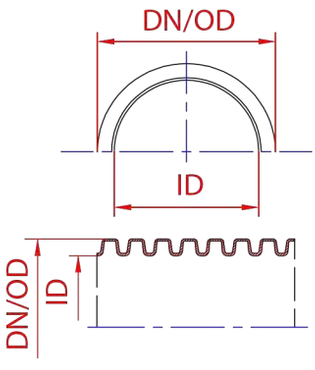
EVOPIPES drainage pipe classification according to **DIN 4262-1**

Pipes are classified according to their geometric wall construction in the following types:

Type

Pipe with corrugated external and internal wall surface.

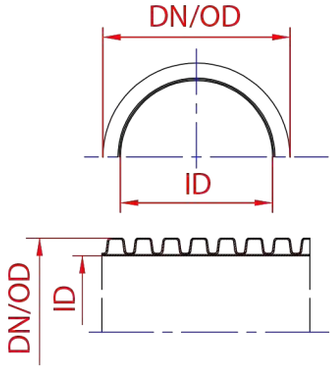
R1



Type

Pipe with corrugated external wall surface and smooth internal surface.

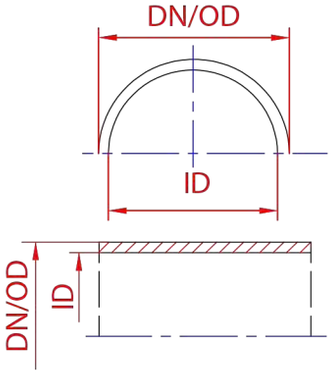
R2



Type

Pipe with smooth wall surface design.

R3



Pipes are classified according to perforation:

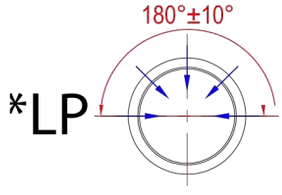
360° Totally perforated pipe *(totally perforated)*

TP

TP type 360° totally perforated pipe with perforation openings evenly distributed throughout all pipe.

180°±10° Locally perforated pipe *(locally perforated)*

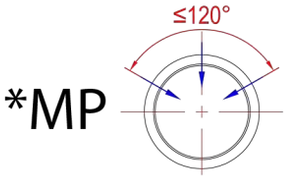
*LP



LP type 180°±10° partially perforated pipe with perforation openings on pipe surface are located symetrically to vertical axis of the pipe in the zone of approximately 180°±10°, but lower part of the pipe or spout zone is not perforated. Pipe lower part or flow channel is used for liquid collection and transportation along it.

≤120° Multipurpose pipe *(multipurpose pipe)*

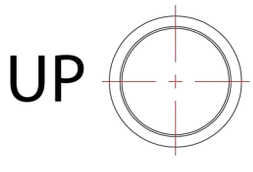
*MP



MP type ≤120° perforated multipurpose pipe whose perforation openings on pipe surface are located symetrically to vertical axis of the pipe at maximum ≤120° zone, but lower part of the pipe or flow channel zone is not perforated. Pipe lower part or flow channel is used for liquid collection and transportation along it.

Unperforated liquid transport pipe *(unperforated **liquid** transport pipe)*

UP



UP type unperforated liquid transportation pipe.

**- Perforation types LP and MP at request are available with other perforation zones.*

LP, MP, UP type drainage pipe coupling is waterproof, which is achieved by rubber sealing ring of the connection area.

LP and **MP** type perforated drainage pipes have upper parts marked with indelible yellow double line which helps to determine precise pipe spout location.

Note:

Perforation pipes with nominal size ≥ DN 400 mm and water perforation opening form, for example, cut form or round form opening and their geometry as well as distance of the liquid openings between each other and their location on the pipe, as well as water inlet opening area is agreed on between customer and manufacturer.
Water inlet perforation openings shall be designed so the distance between them does not hinder water flow (filtration) as well as water runoff flow in it.

EVOPIPES drainage system application

EVOPIPES offers:

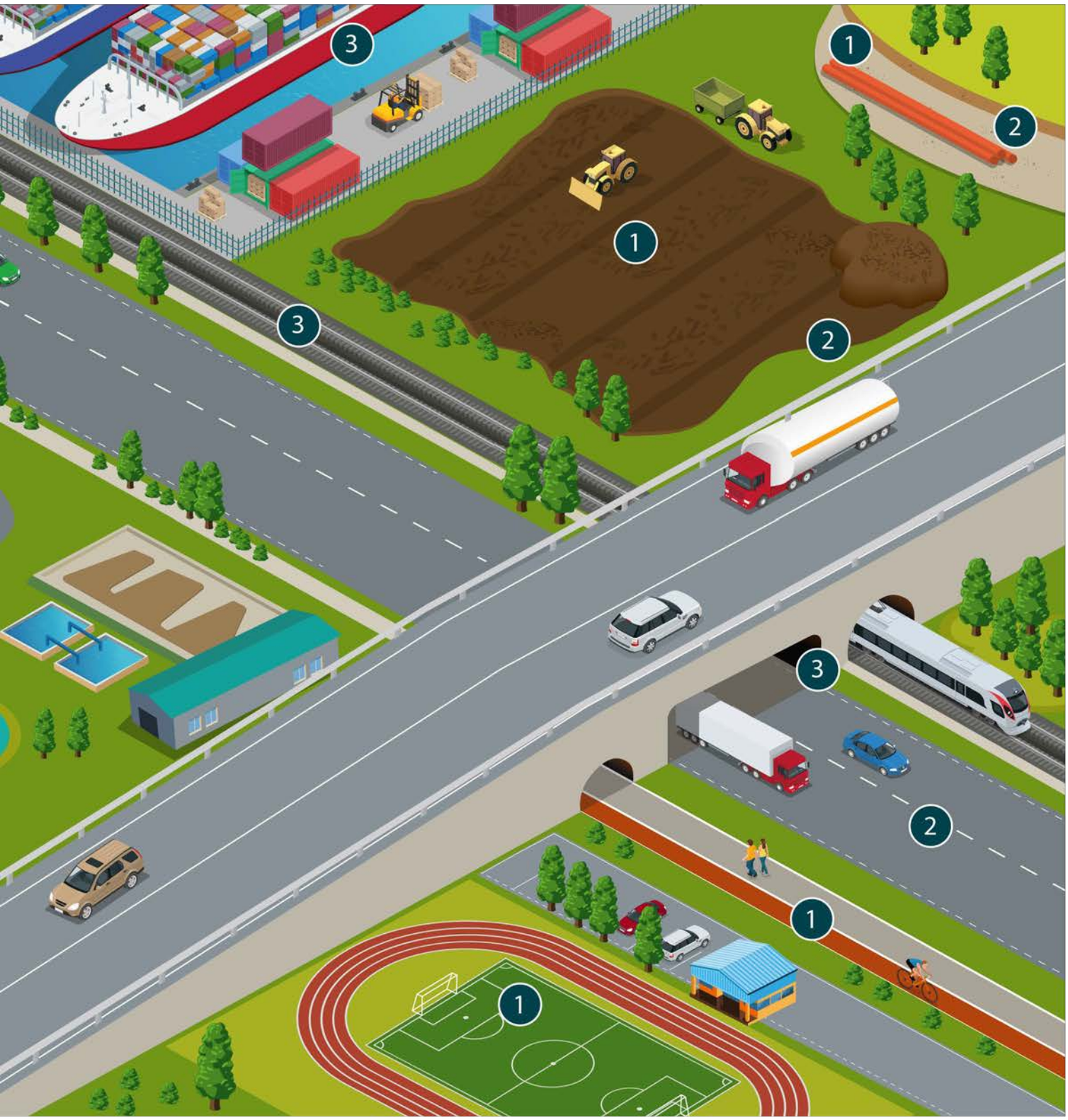
- Individual approach and consulting of drainage system solutions;
- Customer-oriented solutions; experience and knowledge as well as support in drainage system solutions;
- Efficient and innovative solutions;
- Various drainage system solutions.

1	EVODRAIN FLEX R1/R2 TP SN4/SN8**	*from p. 23
	EVODRAIN HARD R2 (TP, LP, MP, UP) SN8	*from p. 39
	RIGID MULTI UV10 R3 UP SN8	*from p. 61
	Drainage chamber with sediment trap CID400, CID600, CID1000	*from p. 73
	Covered drainage chamber with sediment trap CDC400, CDC600, CDC1000	*from p. 109
	Drainage gully DRC400, DRC600, DRC1000**	*from p. 127
2	EVODRAIN FLEX R1/R2 TP SN4/SN8**	*from p. 23
	EVODRAIN HARD R2 (TP, LP, MP, UP) SN8 EVODRAIN HARD RF R2 (TP, LP, MP, UP) SN16	*from p. 39
	RIGID MULTI UV10 R3 UP SN8	*from p. 61
	Drainage chamber with sediment trap CID400, CID600, CID1000	*from p. 73
	Covered drainage chamber with sediment trap CDC400, CDC600, CDC1000	*from p. 109
	Drainage gully with DRC400, DRC600, DRC1000***	*from p. 127
3	EVODRAIN HARD R2 (TP, LP, MP, UP) SN8 EVODRAIN HARD RF R2 (TP, LP, MP, UP) SN16	*from p. 39
	RIGID MULTI UV10 R3 UP SN8	*from p. 61
	Drainage chamber with sediment trap CID400, CID600, CID1000	*from p. 73
	Covered drainage chamber with sediment trap CDC400, CDC600, CDC1000	*from p. 109
	Drainage gully DRC400, DRC600, DRC1000***	*from p. 127

* - See more detailed information in catalogue of products (ID:KA.DR.LV 2.2V.17)

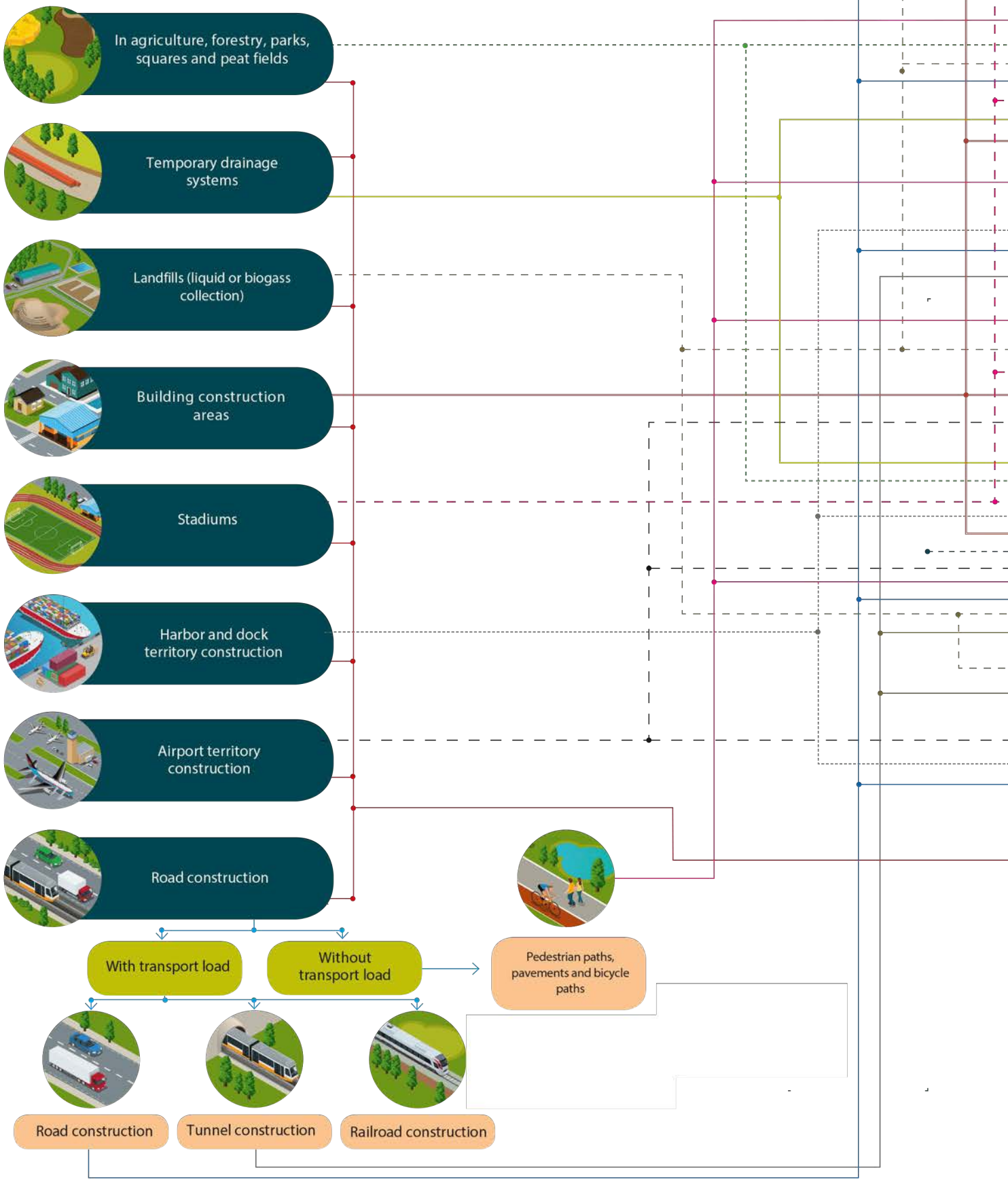
** If necessary EVODRAIN FLEX pipe in the offer is available with industrial A type woven textile filter material and carpet type cocos fibre filter mterial.

*** - If necessary gullies with sediment trap DRC are available with chamber perforation zone: 120°,180°, 360°.


3
1
2
1
3
2
3
2
1
1

EVOPIPES drainage pipe classification according to application

** - See more detailed information in common catalogue of products (ID:KA.DR.LV-2.2V.17)*



EVODRAIN FLEX R1 TP SN4/SN8

Series DN/OD, mm
56, 63
Material
PVC

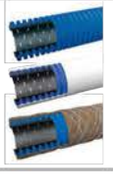
Type **R1 SN4** and **SN8** without filter material
Type of perforation **TP** (360° perforated pipe)
Perforation opening area ≥50 cm²/m

Type **R1 SN4** and **SN8** with woven A type textile filter material
Perforation type **TP** (360° perforated pipe)
Perforation opening area ≥50 cm²/m

Type **R1 SN4** and **SN8** with carpet type coco fiber filter material
Perforation type **TP** (360° fully perforated pipe)
Perforation opening area ≥50 cm²/m

*from p. 23

EVODRAIN FLEX R2 TP SN4/SN8



Series DN/OD, mm
75, 90, 110, 125, 160
Material
HDPE

Type **R2 SN4** and **SN8** without filter material
Perforation type **TP** (360° perforated pipe)
Perforation opening area ≥50 cm²/m

Type R1 SN4 and SN8 with woven A type textile filter material Perforation type TP (360° perforated pipe)
Perforation opening area ≥50 cm²/m

Type R1 SN4 and SN8 with carpet type coco fiber filter material
Perforation type TP (360° perforated pipe)
Perforation opening area ≥50 cm²/m

*from p. 23

EVODRAIN HARD R2 (TP, LP, MP, UP) SN8

Series DN/OD, mm
63, 75, 90, 110, 125, 160
Material
HDPE

Series DN/OD, mm
200, 250, 315, 400
Material
PP-B

Type **R2 SN8**, type of perforation **TP** (360° perforated pipe)
Perforation opening area:
DN/OD 63÷160 mm≥50 cm²/m, DN/OD 200÷400 mm ≥150 cm²/m

Type **R2 SN8**, perforation type **LP** (180°±10° perforated pipe)
Perforation opening area:
DN/OD 63÷160 mm≥50 cm²/m, DN/OD 200÷400 mm ≥150 cm²/m

Type **R2 SN8**, perforation type **MP** (≥120° multipurpose pipe)
Perforation opening area:
DN/OD 63÷160 mm ≥50 cm²/m, DN/OD 200÷400 mm ≥120 cm²/m
Type **R2 SN8**, perforation type **UP** (unperforated transportation pipe)

*from p. 39

RIGID MULTI UV10 R3 UP SN8 (drainage discharge pipe)

Series DN/OD, mm
110, 160, 200, 250
Material
PP-B

Type **R3 SN8**, perforation type **UP** (unperforated transportation pipe)

*from p. 61

EVODRAIN HARD RF R2 (TP, LP, MP, UP) SN16

Series DN/OD, mm
160, 200, 250, 315, 400
Material
PP-B

Type **R2 SN16**, perforation type **TP** (360° perforated pipe)
Perforation opening area ≥150 cm²/m

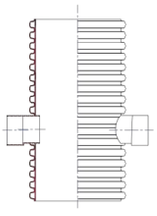
Type **R2 SN16**, perforation type **LP** (180°±10° perforated pipe)
Perforation opening area ≥150 cm²/m

Type **R2 SN16**, perforation type **MP** (≥120° multipurpose pipe)
Perforation openig area ≥120 cm²/m

Type **R2 SN16**, perforation type **UP** (unperforated transportation pipe)

*from p. 39

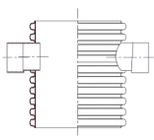
DRAINAGE CHAMBER WITH SEDIMENT TRAP CID



CID400 possible coupling DN, mm	
Outlet	Inlet
110÷250	110÷250
CID600 possible coupling DN, mm	
Outlet	Inlet
110÷315	110÷315
CID1000 possible coupling DN, mm	
Outlet	Inlet
110÷400	110÷400

*from p. 73

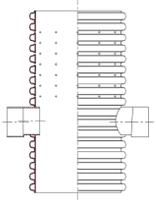
COVERED DRAINAGE CHAMBER WITH SEDIMENT TRAP CDC



CDC400 possible coupling DN, mm	
Outlet	Inlet
110÷250	110÷250
CDC600 possible coupling DN, mm	
Outlet	Inlet
110÷315	110÷315
CDC1000 possible coupling DN, mm	
Outlet	Inlet
110÷400	110÷400

*from p. 109

DRAINAGE GULLY DRC (possible manhole circumference perforation zone 120°,180°, 360°)



DRC400 possible coupling DN, mm	
Outlet	Inlet
110÷250	110÷250
DRC600 possible coupling DN, mm	
Outlet	Inlet
110÷315	110÷315
DRC1000 possible coupling DN, mm	
Outlet	Inlet
110÷400	110÷400

*from p. 127

EVOPIPES drainage pipe and chamber application and available range

In agriculture, forestry, in parks, squares and peat fields	Temporary drainage systems	Building construction areas	Stadiums	Pedestrian paths, pavements and bicycle paths
				

****EVODRAIN FLEX** PVC pipe, type R1, nominal strength class SN4 and SN perforation type: TP (360°) Nominal size: DN/OD 50, 63 mm ****EVODRAIN FLEX** HDPE pipe, type R2, nominal strength class SN4 and SN8, perforation type: TP (360°) Nominal size: DN/OD75, 90, 110, 125, 160 mm	*from p. 23
EVODRAIN HARD HDPE pipe, type R2, nominal strength class SN8 Perforation type: TP (360°), LP (180°±10°), MP (120°), UP (unperforated), Nominal size: DN/OD 63, 75, 90, 110, 125, 160 mm **EVODRAIN HARD** PP-B pipe, type R2, nominal strength class SN8 Perforation type: TP (360°), LP (180°±10°), MP (120°), UP (unperforated), Nominal size: DN/OD 200, 250, 315, 400 mm	*from p. 39
RIGID MULTI UV10 PP-B discharge pipe, type R3, nominal strength class SN8, perforation type: UP (unperforated) Nominal size: DN/OD 110, 160, 200, 250 mm	*from p. 61
Drainage chamber with sediment trap CID Nominal size (determined by chamber series): CID400 - DN/OD 400 mm, CID - DN/ID 600 mm, CID1000 - DN/ID 1000 mm	*from p. 73
Covered drainage chamber with sediment trap CDC Nominal size (determined by chamber series): CDC400 - DN/OD 400 mm, CDC - DN/ID 600 mm, CDC1000 - DN/ID 1000 mm	*from p. 109
*****Drainage gully DRC** Nominal size (determined by chamber series): DRC400 - DN/OD 400 mm, DRC - DN/ID 600 mm, DRC1000 - DN/ID 1000 mm	*from p. 127

Landfills (liquid and biogas collection)	Road construction
	

****EVODRAIN FLEX** PVC pipe, type R1, nominal strength class SN4 and SN perforation type: TP (360°) Nominal size: DN/OD 50, 63 mm ****EVODRAIN FLEX** HDPE pipe, type R2, nominal strength class SN4 and SN8, perforation type: TP (360°) Nominal size: DN/OD75, 90, 110, 125, 160 mm	*from p. 23
EVODRAIN HARD HDPE pipe, type R2, nominal strength class SN8 Perforation type: TP (360°), LP (180°±10°), MP (120°), UP (unperforated), Nominal size: DN/OD 63, 75, 90, 110, 125, 160 mm **EVODRAIN HARD** PP-B pipe, type R2, nominal strength class SN8 Perforation type: TP (360°), LP (180°±10°), MP (120°), UP (unperforated), Nominal size: DN/OD 200, 250, 315, 400 mm **EVODRAIN HARD** RF PP-B pipe, type R2, nominal strength class SN16 Perforation type: TP (360°), LP (180°±10°), MP (120°), UP (unperforated), nominal size: DN/OD 160, 200, 250, 315, 400 mm	*from p. 39
RIGID MULTI UV10 PP-B discharge pipe, type R3, nominal strength class SN8, perforation type: UP (unperforated) Nominal size: DN/OD 110, 160, 200, 250 mm	*from p. 61
Drainage chamber with sediment trap CID Nominal size (determined by chamber series): CID400 - DN/OD 400 mm, CID - DN/ID 600 mm, CID1000 - DN/ID 1000 mm	*from p. 73
Covered drainage chamber with sediment trap CDC Nominal size (determined by chamber series): CDC400 - DN/OD 400 mm, CDC - DN/ID 600 mm, CDC1000 - DN/ID 1000 mm	*from p. 109
*****Drainage gully DRC** Nominal size (determined by chamber series): DRC400 - DN/OD 400 mm, DRC - DN/ID 600 mm, DRC1000 - DN/ID 1000 mm	*from p. 127

Harbor and dock territory construction	Airport territory construction	Tunnel construction	Railroad construction
			

EVODRAIN HARD HDPE pipe, type R2, nominal strength class SN8 Perforation type: TP (360°), LP (180°±10°), MP (120°), UP (unperforated), Nominal size: DN/OD 63, 75, 90, 110, 125, 160 mm **EVODRAIN HARD** PP-B pipe, type R2, nominal strength class SN8 Perforation type: TP (360°), LP (180°±10°), MP (120°), UP (unperforated), Nominal size: DN/OD 200, 250, 315, 400 mm **EVODRAIN HARD** RF PP-B pipe, type R2, nominal strength class SN16 Perforation type: TP (360°), LP (180°±10°), MP (120°), UP (unperforated), nominal size: DN/OD 160, 200, 250, 315, 400 mm	*from p. 39
RIGID MULTI UV10 PP-B discharge pipe, type R3, nominal strength class SN8, perforation type: UP (unperforated) Nominal size: DN/OD 110, 160, 200, 250 mm	*from p. 61
Drainage chamber with sediment trap CID Nominal size (determined by manhole series): CID400 - DN/OD 400 mm, CID - DN/ID 600 mm, CID1000 - DN/ID 1000 mm	*from p. 73
Covered drainage chamber with sediment trap CDC Nominal size (determined by chamber series): CDC400 - DN/OD 400 mm, CDC - DN/ID 600 mm, CDC1000 - DN/ID 1000 mm	*from p. 109
*****Drainage gully DRC** Nominal size (determined by chamber series): DRC400 - DN/OD 400 mm, DRC - DN/ID 600 mm, DRC1000 - DN/ID 1000 mm	*from p. 127

* - See more detailed information in catalogue of products (ID:KA.DR.LV-2.2V.17)
** - If necessary EVODRAIN FLEX is available with industrial A type woven textile filter material and carpet type cocos fibre filter mterial. ***
- If necessary gullies DRC are available with chamber perforation zone: 120°,180°, 360°.

Drainage main network system maintenance/ cleaning using hydrodynamic flushing cleaning method

In order to keep drainage networks in working condition during their lifetime, they require regular maintenance. The pipes are flushed with high-pressure flushing cleaning hydrodynamic device for drainage maintenance, usually using hydrodynamic flushing method. With hydrodynamic flushing cleaning method drainage pipes are flushed and cleaned at the same time. Furthermore upon increase of spray head vibration, impact force effect increases on walls of the pipe, which eliminates clogs on its surface more efficiently. Hydrodynamic flushing principle is - flushing water is supplied with high-pressure pump under pressure to spray head, which directs through nozzles water jets with reactive force, pushing spray head in the opposite direction to pipeline installation fall, water jets in the pipeline roils under pressure and flushes sediments away. Comparing polymer pipes with other material pipes, the polymer pipes have low roughness coefficient. Low roughness leads to reduction of clogging and pipes are easier to clean using flushing jets with low pressure.

Well functioning drainage system improves the condition of agricultural land and it is important factor for high yield. In drained fields, with functioning drainage system the plants germinate and grow evenly.

Recommendation!

Polymer drainage network system flushing is the most efficient when large volume of water are used of more than 150l/min with low pressure until 50 bar.

Flushing with high-pressure flushing jet shall be performed in accordance with LVS CEN/TR 14920. According to LVS CEN/TR 14920 ststandard, maximum flushing pressure allowance Pmax and minimum water amount allowed Qmin with maximum allowed system flushing pressure Pmax depending on the type of pipe R and nominal circumference strength class SN is:

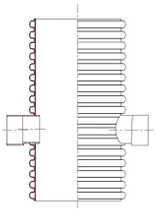
Product	DN/OD , mm	SN, kN/m²	Type of pipe	Perforation type	Pmax	Qmin
EVODRAIN FLEX	50, 63	SN4	R1	LP, MP, TP, UP	120 bar	80 l/min
	75, 90, 110, 125, 160		R2			
	50, 63	SN8	R1			
	75, 90, 110, 125, 160		R2			
EVODRAIN HARD	63, 75, 90, 110, 125, 160, 200, 250, 315, 400	SN8	R2	LP, MP, TP, UP	120 bar	80 l/min
EVODRAIN HARD RF	160, 200, 250, 315, 400	SN16	R2	LP, MP, TP, UP	180 bar	80 l/min
RIGID MULTI UV10	110, 160, 200, 250	SN8	R3	UP	180 bar	80 l/min

EVOPIPES drainage pipe product overview

Product		Type of pipe	Pipe perforation type	Pipe water inlet perforation opening area	Pipe strength nominal class SN, kN/m²	Pipe nominal size DN/OD, mm	Material	Description	Product conforms to standard	Installation performance in accordance with standard	Allowance of pipe flushing (cleaning) parameters	
											Pressure Pmax	Flow Qmin
EVODRAIN FLEX		R1	**TP** - 360° perforated pipe	≥50 cm²/m	**SN4** / **SN8**	50, 63	PVC	Flexible pipe in rolls	DIN 4262-1	EN 1610 CEN/TR 1046	120 bar	80 l/min
		R1	**TP** - 360° perforated pipe	≥50 cm²/m	**SN4** / **SN8**	50, 63	PVC polyester yarn	Flexible pipe in rolls with woven A type textile filter material	DIN 4262-1 LVS EN 13252+A1 ASTM D 6707-06	EN 1610 CEN/TR 1046	120 bar	80 l/min
		R1	**TP** - 360° perforated pipe	≥50 cm²/m	**SN4** / **SN8**	50, 63	PVC coco fiber	Flexible pipe in rolls with carpet type coco fiber filter material	DIN 4262-1	EN 1610 CEN/TR 1046	120 bar	80 l/min
		R2	**TP** - 360° perforated pipe	≥50 cm²/m	**SN4** / **SN8**	75, 90, 110, 125, 160	HDPE	Flexible pipe in rolls	DIN 4262-1	EN 1610 CEN/TR 1046	120 bar	80 l/min
		R2	**TP** - 360° perforated pipe	≥50 cm²/m	**SN4** / **SN8**	75, 90, 110, 125, 160	HDPE polyester yarn	Flexible pipe in rolls with woven A type textile filter material	DIN 4262-1 EN 13252+A1 ASTM D 6707-06	EN 1610 CEN/TR 1046	120 bar	80 l/min
		R2	**TP** - 360° perforated pipe	≥50 cm²/m	**SN4** / **SN8**	75, 90, 110, 125, 160	HDPE coco fiber	Flexible pipe in rolls with carpet type coco fiber filter material	DIN 4262-1	EN 1610 CEN/TR 1046	120 bar	80 l/min
EVODRAIN HARD		R2	**TP** - 360° perforated pipe	≥50 cm²/m	**SN8**	63, 75, 90, 110, 125, 160	HDPE	Hard pipe in bars	DIN 4262-1	EN 1610	120 bar	80 l/min
		R2	**TP** - 360° perforated pipe	≥150 cm²/m	**SN8**	200, 250, 315, 400	PP-B	Hard pipe in bars with rubber sealing ring	DIN 4262-1 EN 13476-3+A1	CEN/TR 1046	120 bar	80 l/min
		R2	**LP** – 180°±10° perforated pipe	≥50 cm²/m	**SN8**	63, 75, 90, 110, 125, 160	HDPE	Hard pipe in bars with rubber sealing ring and marked pipe upper part (perforated zone) with double line	DIN 4262-1	EN 1610 CEN/TR 1046	120 bar	80 l/min
		R2	**LP** – 180°±10° perforated pipe	≥150 cm²/m	**SN8**	200, 250, 315, 400	PP-B	Hard pipe in bars with rubber sealing ring	DIN 4262-1 EN 13476-3+A1	EN 1610 CEN/TR 1046	120 bar	80 l/min
		R2	**MP** – in ≤120° zone perforated multipurpose pipe	≥50 cm²/m	**SN8**	63, 75, 90, 110, 125, 160	HDPE	Hard pipe in bars with rubber sealing ring and marked pipe upper part (perforated zone) with double line	DIN 4262-1	EN 1610 CEN/TR 1046	120 bar	80 l/min
		R2	**MP** – in ≤120° zone perforated multipurpose pipe	≥120 cm²/m	**SN8**	200, 250, 315, 400	PP-B	Hard pipe in bars with rubber sealing ring	DIN 4262-1 EN 13476-3+A1	EN 1610 CEN/TR 1046	120 bar	80 l/min
EVODRAIN HARD RF		R2	**UP** – unperforated liquid transportation pipe	no	**SN8**	63, 75, 90, 110, 125, 160	HDPE	Hard pipe in bars with rubber sealing ring	DIN 4262-1	EN 1610 CEN/TR 1046	120 bar	80 l/min
		R2	**UP** – unperforated liquid transportation pipe	no	**SN8**	200, 250, 315, 400	PP-B	Hard pipe in bars with rubber sealing ring	DIN 4262-1 EN 13476-3+A1	EN 1610 CEN/TR 1046	120 bar	80 l/min
		R2	**TP** - 360° perforated pipe	≥150 cm²/m	**SN16**	160, 200, 250, 315, 400	PP-B	Hard pipe in bars with rubber sealing ring	DIN 4262-1 EN 13476-3+A1	EN 1610 CEN/TR 1046	180 bar	80 l/min
		R2	**LP** – 180°±10° perforated pipe	≥150 cm²/m	**SN16**	160, 200, 250, 315, 400	PP-B	Hard pipe in bars with rubber sealing ring	DIN 4262-1 EN 13476-3+A1	EN 1610 CEN/TR 1046	180 bar	80 l/min
		R2	**MP** – in ≤120° zone perforated multipurpose pipe	≥120 cm²/m	**SN16**	160, 200, 250, 315, 400	PP-B	Hard pipe in bars with rubber sealing ring	DIN 4262-1 EN 13476-3+A1	EN 1610 CEN/TR 1046	180 bar	80 l/min
		R2	**UP** – unperforated liquid transportation pipe	no	**SN16**	160, 200, 250, 315, 400	PP-B	Hard pipe in bars with rubber sealing ring	DIN 4262-1 EN 13476-3+A1	EN 1610 CEN/TR 1046	180 bar	80 l/min
RIGID MULTI UV 10		R3	**UP** – unperforated liquid transportation pipe	no	**SN8**	110, 160, 200, 250	PP-B	Hard pipe in bars with rubber sealing ring	DIN 4262-1 EN 13476-2	EN 1610 CEN/TR 1046	180 bar	80 l/min

DRAINAGE PIPE RECOMMENDED APPLICATION									
In road construction under:			Railroad construction	Tunnel construction	Airport territory construction	Harbor, dock territory construction	Landfills (liquid and biogass collection	Civil, public, industrial building, stadium construction	In agriculture, forestry parks, squares and peat fields
sidewalks and pavements, as well as bicycle paths	municipality (parish) and local significance roads	state or city significance road							
yes	no	no	no	no	no	no	yes	yes	yes
yes	yes	yes	no	no	no	no	yes	yes	yes
yes	no	no	no	no	no	no	yes	yes	yes
yes	yes	yes	no	no	no	no	yes	yes	yes
yes	no	no	no	no	no	no	yes	yes	yes
yes	yes	yes	no	no	no	no	yes	yes	yes
yes	no	no	no	no	no	no	yes	yes	yes
yes	yes	yes	no	no	no	no	yes	yes	yes
yes	no	no	no	no	no	no	yes	yes	yes
yes	yes	yes	no	no	no	no	yes	yes	yes
yes	no	no	no	no	no	no	yes	yes	yes
yes	yes	yes	no	no	no	no	yes	yes	yes
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

EVOPIPES drainage chamber with sediment trap overview

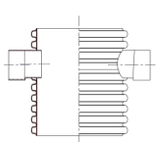
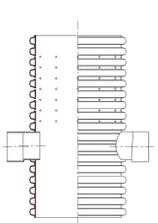
Product	Chamber designation and its type	Chamber perfo-ration zone (water inlet perfo-ration area)	Chamber manhole nominal size DN, mm	Chamber sedi-ment trap height *, mm	Chamber basement solution	Chamber is compatible with DN/OD series pipes	Possible chamber coupling nominal size DN, mm		Chamber cover solution (design)
							Outlet	Outlet	
Drainage chamber with sediment trap CID 	**CID400**	no	**DN/OD400**	400	With DN400 mm PP basement	EVODRAIN FLEX R1 type SN4 EVODRAIN FLEX R1 type SN8 EVODRAIN FLEX R2 type SN4 EVODRAIN FLEX R2 type SN8 EVODRAIN HARD R2 type SN8 EVODRAIN HARD RF R2 type SN16 RIGID MULTI UV10 R3 type SN8	110÷250	110÷250	DN400 mm PP cover
	CID400/315D	no							DN315 mm cast iron frame with class D cover 400 (LVS EN 124-2) and telescope DN315 mm
	CID600A	no	**DN/ID600**	400	With 700x700 mm PP basement plate		110÷315	110÷315	DN600 mm concrete class A cover 15 (LVS EN 124-4)
	CID600B	no							DN600 mm concrete class B cover 125 (LVS EN 124-4)
	CID600D	no							DN600 mm cast iron frame with class D cover 400 (LVS EN 124-2) and DN700 mm concrete height regulation ring** with DN700 mm concrete support ring
	CID600AC	no			With DN 600 mm concrete basement				DN600 mm concrete class A cover 15 (LVS EN 124-4)
	CID600BC	no							DN600 mm concrete class B cover 125 (LVS EN 124-4)
	CID600DC	no							DN600 mm cast iron frame with class D cover 400 (LVS EN 124-2) and DN700 mm concrete height regulation ring** with DN700 mm concrete support ring
	CID1000/600A	no	**DN/ID1000**	400	With 1200x1200 mm PP basement plate		110÷400	110÷400	DN600 mm concrete class A cover 15 (LVS EN 124-4) with DN1000 mm concrete lintel support
	CID1000/600B	no							DN600 mm concrete class B cover 125 (LVS EN 124-4) with DN1000 mm concrete lintel support
	CID1000/600D	no							DN600 mm cast iron frame with class D cover 400 (LVS EN 124-2) un DN 700 mm concrete height regulation ring** with DN1000 mm concrete lintel support
	CID1000B	no							DN1000 mm concrete class B cover 125 (LVS EN 124-4)
	CID1000/600AC	no			With DN1000 mm concrete basement				DN600 mm concrete class A cover 15 (LVS EN 124-4) with DN1000 mm concrete lintel support
	CID1000/600BC	no							DN600 mm concrete class B cover 125 (LVS EN 124-4) with DN1000 mm concrete lintel support
	CID1000/600DC	no							DN600 mm cast iron frame with class D cover 400 (LVS EN 124-2) and DN 700 mm concrete height regulation ring** with DN1000 mm concrete lintel support
	CID1000BC	no							DN1000 mm concrete class B cover 125 (LVS EN 124-4)

*- On request it is possible to produce sediment trap with other length according to technical specification of particular construction project.
** - DN 700 mm concrete regulation ring could be installed if necessary.

Note: Drainage chamber sediment trap may be built in all groups of ground (G1 - loose sand and gravel, G2 – lightly cohesive sand and gravel, G3 – cohesive mixed gravel and rough sand and G4 – cohesive gravel, i.e. clay, in accordance with CEN/TR 1046 standard annex A) even in the most biogenic ground types - where peat, mud or sapropel is deeper than 2.0 m. Chamber construction shall be performed in accordance with EN 1610 and CEN/TR 1046 standard requirements and in-force construction, reclamation (drainage network technical provisions issued by the manager) and environment protection legislation, as well as technical rules of road and railroad authorities.

Drainage system should be built in places where:	RECOMMENDED APPLICATION OF CHAMBERS WITH SEDIMENT TRAP							
	In road construction zones		Railroad construction	Airport territory construction	Harbor, dock construction territories	Landfills (liquid or biogas collection	Civil, public, industrial buildings, stadiums construction	In agriculture forestry, parks, squares and peat fields
	Without transport load	With transport load						
	yes	no	no	no	no	yes	yes	yes
	yes	yes	yes	yes	yes	yes	yes	yes
	yes	yes	yes	yes	yes	yes	yes	yes
	yes	yes	yes	yes	yes	yes	yes	yes
	yes	yes	yes	yes	yes	yes	yes	yes
	yes	yes	yes	yes	yes	yes	yes	yes
	yes	yes	yes	yes	yes	yes	yes	yes
1)Drainage collector longitudinal slope or water flow speed in collector reduces until minimum allowance.	yes	yes	yes	yes	yes	yes	yes	yes
2)In one unit several drainage collectors should be coupled, as well as in places where drainage upstream collector track direction rapidly (quickly) changes.	yes	yes	yes	yes	yes	yes	yes	yes
	yes	yes	yes	yes	yes	yes	yes	yes
3)Drainage collector track turn angle is more than 60°.	yes	yes	yes	yes	yes	yes	yes	yes
	yes	yes	yes	yes	yes	yes	yes	yes
	yes	yes	yes	yes	yes	yes	yes	yes
	yes	yes	yes	yes	yes	yes	yes	yes
	yes	yes	yes	yes	yes	yes	yes	yes
	yes	yes	yes	yes	yes	yes	yes	yes

EVOPIPES drainage chamber with sediment trap overview

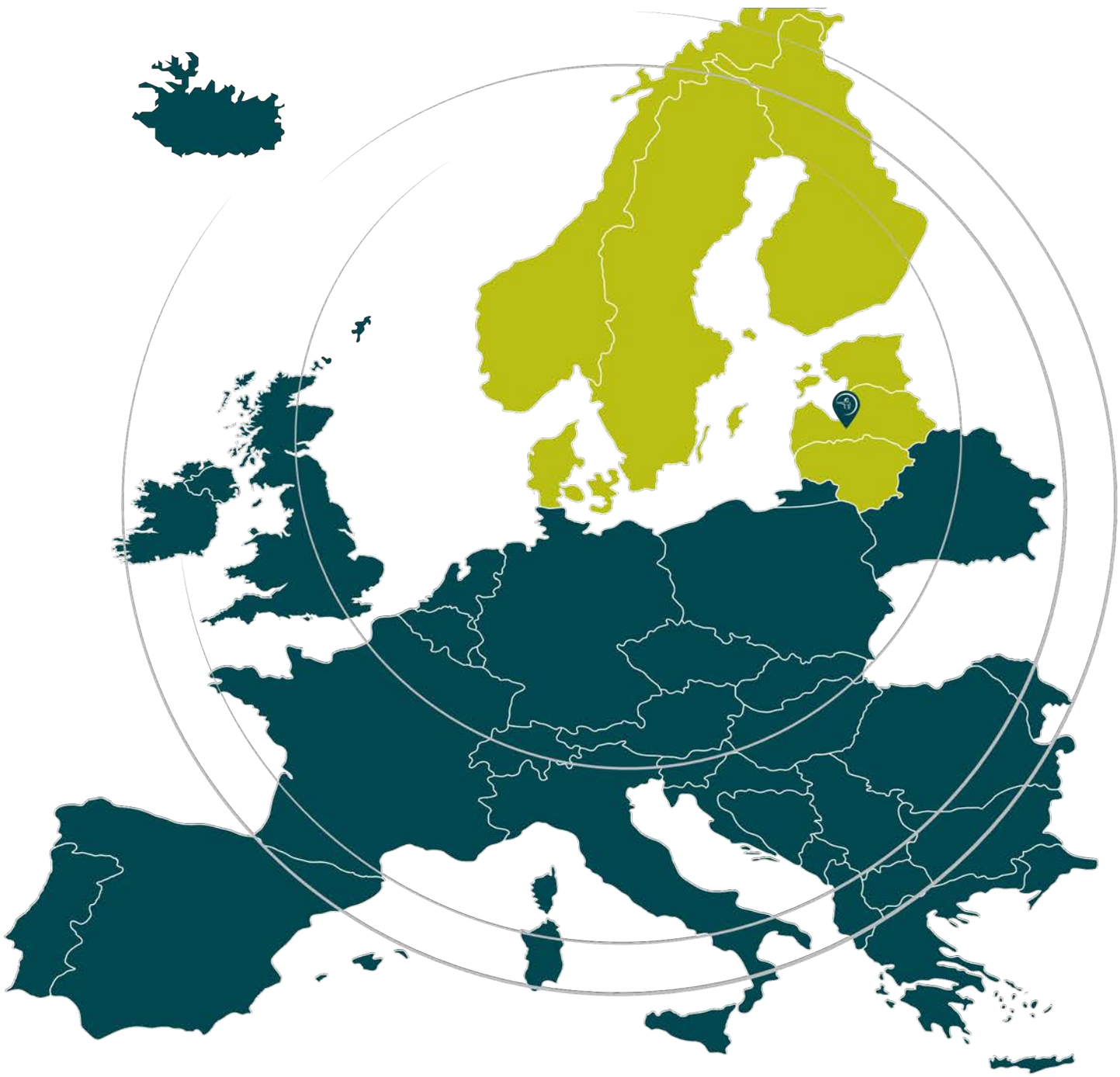
Product	Well designation and its type	Chamber perforation zone (water inlet perforation area)	Shaft nominal size DN, mm	Well sediment trap height* mm	Chamber basement solution	Chamber can be coupled (is compatible) with DN/OD series pipes	Possible chamber coupling nominal size DN, mm		Chamber hatch lintel solution (design)
							Outlet	Outlet	
Covered drainage type chamber with sediment trap CDC 	**CDC400**	no	**DN/OD400**	400	With DN400 mm PP basement	EVODRAIN FLEX R1 type SN4	110÷250	110÷250	DN400 mm PP cover
	CDC600	no	**DN/ID600**	400	With 700x700 mm PP basement plate	EVODRAIN FLEX R1 type SN8	110÷315	110÷315	DN600 mm concrete cover
	CDC600C	no			With DN 600 mm concrete basement				
	CDC1000/600	no	**DN/ID1000**	400	With 1200x1200 mm PP basement plate	EVODRAIN FLEX R2 type SN4	110÷400	110÷400	DN600 mm concrete class cover with DN1000 mm concrete lintel support
	CDC1000	no				EVODRAIN FLEX R2 type SN8			DN1000 mm concrete cover
	CDC1000/600C	no			With DN1000 mm concrete basement	EVODRAIN HARD R2 type SN8			DN600 mm concrete class cover with DN1000 mm concrete lintel support
	CDC1000C	no				EVODRAIN HARD RF R2 type SN16			DN1000 mm concrete cover
						RIGID MULTI UV10 R3 type SN8			
Drainage gully DRC 	**DRC400120**	120° (≥88 cm^2/m)	**DN/OD400**	400	With DN400 mm PP basement	EVODRAIN FLEX R1 type SN4	110÷250	110÷250	DN400 mm PP cover
	DRC400180	180° (≥112 cm^2/m)				EVODRAIN FLEX R1 type SN8			
	DRC400360	360° (≥210 cm^2/m)				EVODRAIN FLEX R2 type SN4			
	DRC600120A	120° (≥88 cm^2/m)	**DN/ID600**	400	With 700x700 mm PP basement plate	EVODRAIN FLEX R2 type SN8	110÷315	110÷315	DN600 mm concrete cover
	DRC600180A	180° (≥112 cm^2/m)				EVODRAIN HARD R2 type SN8			
	DRC600360A	360° (≥210 cm^2/m)				EVODRAIN HARD RF R2 type SN16			
	DRC600120AC	120° (≥88 cm^2/m)			With DN 600 mm concrete basement	RIGID MULTI UV10 R3 type SN8			
	DRC600180AC	180° (≥112 cm^2/m)							
	DRC600360AC	360° (≥210 cm^2/m)							
	DRC1000/600120A	120° (≥88 cm^2/m)	**DN/ID1000**	400	With 1200x1200 mm PP basement plate		110÷400	110÷400	DN600 mm concrete class cover with DN1000 mm concrete lintel support
	DRC1000/600180A	180° (≥112 cm^2/m)							
	DRC1000/600360A	360° (≥210 cm^2/m)							
	DRC1000/600120AC	120° (≥88 cm^2/m)							
	DRC1000/600180AC	180° (≥112 cm^2/m)							
	DRC1000/600360AC	360° (≥210 cm^2/m)							
	DRC1000120B	120° (≥88 cm^2/m)			With DN1000 mm concrete basement				DN1000 mm concrete cover
	DRC1000180B	180° (≥112 cm^2/m)							
	DRC1000360B	360° (≥210 cm^2/m)							
	DRC1000120BC	120° (≥88 cm^2/m)							
	DRC1000180BC	180° (≥112 cm^2/m)							
	DRC1000360BC	360° (≥210 cm^2/m)							

*- On request it is possible to produce sediment trap with other length according to technical specification of particular construction project.
** - DN 700 mm concrete regulation ring could be installed if necessary.

Note: Drainage chamber sediment trap may be built in all groups of ground (G1 - loose sand and gravel, G2 – lightly cohesive sand and gravel, G3 – cohesive mixed gravel and rough sand and G4 – cohesive gravel, i.e. clay, in accordance with CEN/TR 1046 standard annex A) even in the most biogenic ground types - where peat, mud or sapropel is deeper than 2.0 m. Chamber construction shall be performed in accordance with EN 1610 and CEN/TR 1046 standard requirements and in-force construction, reclamation (drainage network technical provisions issued by the manager) and environment protection legislation, as well as technical rules of road and railroad authorities.

Drainage system should be built in places where:	RECOMMENDED APPLICATION OF CHAMBERS WITH SEDIMENT TRAP							
	In road construction zones		Railroad construction	Airport territory construction	Harbor, dock construction territories	Landfills (liquid or biogas	Civil, public, industrial buildings, stadiums	In agriculture forestry, parks, squares and peat fields
	Without transport load	With transport load						
	yes	yes	yes	yes	yes	yes	yes	yes
1)Drainage manhole with sediment trap building would limit land use	yes	yes	yes	yes	yes	yes	yes	yes
	yes	yes	yes	yes	yes	yes	yes	yes
2)Drainage longitudinal slope or water flow speed in collector is reduced to minimum allowance indicator.	yes	yes	yes	yes	yes	yes	yes	yes
3)In one unit several drainage collectors should be coupled, as well as in places where drainage upstream collector track direction rapidly (quickly) changes.	yes	yes	yes	yes	yes	yes	yes	yes
	yes	yes	yes	yes	yes	yes	yes	yes
4)Drainage collector track turn angle larger than 60°.	yes	yes	yes	yes	yes	yes	yes	yes
	yes	yes	yes	yes	yes	yes	yes	yes
	yes	yes	yes	yes	yes	yes	yes	yes
	yes	yes	yes	yes	yes	yes	yes	yes
	yes	yes	yes	yes	yes	yes	yes	yes
	yes	yes	yes	yes	yes	yes	yes	yes
	yes	yes	yes	yes	yes	yes	yes	yes
	yes	yes	yes	yes	yes	yes	yes	yes
	yes	yes	yes	yes	yes	yes	yes	yes
1)There are vast and pronounced depressions in the lowest part where surface water runoff of drainage gully with sediment trap may flow in at natural slope of land or fill furrow.	yes	yes	yes	yes	yes	yes	yes	yes
	yes	yes	yes	yes	yes	yes	yes	yes
	yes	no	yes	yes	yes	yes	yes	yes
	yes	no	yes	yes	yes	yes	yes	yes
2)May provide water inflow collection from trenches (contour trenches, road trenches).	yes	no	yes	yes	yes	yes	yes	yes
	yes	no	yes	yes	yes	yes	yes	yes
	yes	no	yes	yes	yes	yes	yes	yes
	yes	no	yes	yes	yes	yes	yes	yes
	yes	no	yes	yes	yes	yes	yes	yes
	yes	no	yes	yes	yes	yes	yes	yes
	yes	no	yes	yes	yes	yes	yes	yes
	yes	no	yes	yes	yes	yes	yes	yes
	yes	no	yes	yes	yes	yes	yes	yes

EVODRAIN DRAINAGE SYSTEM



PRODUCTION AND OFFICE

SIA "EVOPIPES"
Address: Langervaldes Street
2a, Jelgava, LV-3002, Latvia
Telephone: +371 630-943-00
Fax: +371 630-943-01
info@evopipes.lv
www.evopipes.lv

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